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**REMARKS/ARGUMENTS**

Claims 1-13 are pending herein. Claims 1-3, 5 and 12 have been amended for clarification purposes only.

1. The objection to the specification is noted, but deemed moot in view of the substitute specification paragraphs filed herewith.
2. The rejection of claim 3 under §112, second paragraph is noted, but deemed moot in view of rewritten claim 3 submitted above.
3. ~~Claims 1, 3-7 and 9-13 were rejected under §102(b) over Ohba.~~ This rejection is respectfully traversed.

With reference to Fig. 1 of the present application, for example, pending independent claim 1 recites that a buffer layer 3 comprising a second semiconductor nitride is formed on an underlayer 2, which comprises a first Al-including semiconductor nitride formed on substrate 1. A semiconductor layer group 4 comprises a third semiconductor nitride that includes at least Ga and is formed on buffer layer 3. Applicants respectfully submit that the applied prior art of record, discussed below, does not disclose or suggest the claimed buffer layer or that both a buffer layer and an underlayer intervene between a substrate and a semiconductor layer group, as claimed.

Fig. 6 of Ohba shows that AlN buffer layer 11 is sandwiched between Al<sub>2</sub>O<sub>3</sub> substrate 10 and GaN contact layer 12. As explained above, pending independent claim 1 recites that an underlayer and a buffer layer intervene between the substrate and the semiconductor layer group. Contrary to the position asserted in the Office Action, Ohba's GaN contact layer 12, which is an active layer that is part of a semiconductor layer group (i.e., n-GaN contact layer 12 through p-GaN contact layer 16), does not correspond to the claimed buffer layer. Instead, Applicants respectfully submit that Ohba's GaN contact layer 12 is an active layer through which a current flows between electrodes 17 and 18. As such, GaN active layer 12 does not function to compensate for lattice mismatching between Ohba's AlN buffer layer 11 and AlGaIn confinement layer 13, which is positioned on GaN contact layer 12. Accordingly, the PTO cannot discharge its initial burden of showing that the claimed invention is disclosed in Ohba by dissecting the structure depicted in Ohba's Fig. 6 and arbitrarily calling GaN active layer 12 a buffer layer. There is no disclosure in Ohba that GaN active layer 12 exhibits any

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buffering function, nor has the PTO explained this to be the case under any theory of inherency. The PTO has basically ignored the "buffer" limitation recited in the pending claims, which is clearly improper.

Moreover, as discussed above, because Ohba's GaN active layer 12 does not function as a buffer layer, Ohba does not disclose or suggest that both an underlayer and a buffer layer are formed between a semiconductor layer group and a substrate, as claimed.

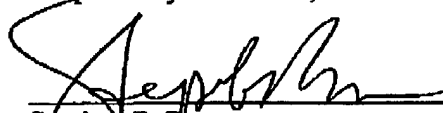
In view of all of the foregoing, reconsideration and withdrawal of the §102(b) rejection over Ohba are respectfully requested.

4. Claims 2 and 8 were rejected under §103(a) over Ohba. Applicants respectfully submit that the arguments submitted above distinguish claim 1 from Ohba. Since claims 2 and 8 depend directly from claim 1, those claims are also believed to be allowable over Ohba.

If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

  
\_\_\_\_\_  
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July 22, 2003

\_\_\_\_\_  
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**July 22, 2003**

To: Im, J. Fax No.: (703) 872-9318  
From: Stephen P. Burr Fax No.: (315) 233-8320  
Re: U.S. Patent Application Serial No. 10/017,325  
Title: SEMICONDUCTOR ELEMENT  
Conf. No.: 8198  
Our Ref.: 782\_206

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**COMMENTS:**

**I hereby certify that the following paper(s) is/are being transmitted by facsimile to the Patent and Trademark Office on July 22, 2003:**

- an Amendment Transmittal with a  
Petition for Extension of Time (one-month) (in duplicate)
- an Amendment (12 pages)

*Tara L. Preston*

Tara L. Preston

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